2.4 Identify Zeros and End Behavior and Graphing (Key)

On problems 1-6 you will have to graph on your own based on the zeros and multiplicity. DO NOT use your Calculator!!

1. Zero: (-1, 0) Mult. 1, cross Zero: (1, 0) mult. 1, cross Zero: (3, 0) mult. 1, cross

End behavior: Odd polynomial with positive leading coefficient. (Use this to determine end behavior using limits).

2. Zero: (0, 0) Mult. 2, touch Zero: (4/5, 0) mult. 1, cross Zero: (-3, 0) mult. 1, cross

End behavior: even polynomial with negative leading coefficient. (Use this to determine end behavior using limits).

3. Zero: (-4, 0) Mult. 1, cross Zero: (-1, 0) mult. 1, cross Zero: (2, 0) mult. 1, cross

Zero: (3, 0) mult. 1, cross

End behavior: even polynomial with positive leading coefficient. (Use this to determine end behavior using limits).

4. Zero: (-1, 0) Mult. 1, cross Zero: (3, 0) mult. 2, touch

End behavior: Odd polynomial with negative leading coefficient. (Use this to determine end behavior using limits).

5. Zero: (-2, 0) Mult. 2, touch Zero: (1, 0) mult. 3, cross

End behavior: Odd polynomial with positive leading coefficient. (Use this to determine end behavior using limits).

6. Zero: (2, 0) Mult. 3, cross Zero: (-1, 0) mult. 1, cross

End behavior: even polynomial with negative leading coefficient. (Use this to determine end behavior using limits).

Problems 7-10 Try on your own without calculator!! Use y-intercepts and end behavior!

11. Zero: (-1, 0) Mult. 1, cross Zero: (1, 0) mult. 4, touch Zero: (3, 0) mult. 1, cross

End behavior: even polynomial with positive leading coefficient. (Use this to determine end behavior using limits).

12. Zero: (-1, 0) Mult. 1, cross

End behavior: Odd polynomial with positive leading coefficient. (Use this to determine end behavior using limits).

13. Factoring can be used here! b, c

14. Remainder TH. a, b

15. $(3y + 4)(3y - 4)$

16. $(3z – 4)^2$

17. $(4z + 3)(16z^2 -12z + 9)$

18. $(x + i)(x – i)(2x – 3)$

19. $(k – 5)(3k -4)$

20. $(11n + 2)\ (11n – 2)$

21. $5(5a – 9)(a + 3)$

22. $10x(2x -7y)$